

Meteorologically Driven Dengue and Chikungunya Forecasts

Completed Technology Project (2015 - 2016)



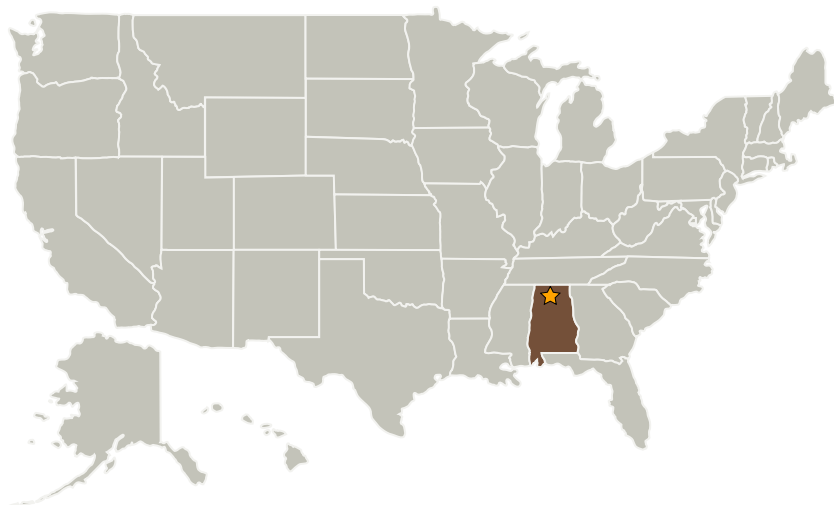
Project Introduction

The goal of this project is to incorporate weather forecasts and reported DF and ChikV case data into a disease transmission model to forecast disease case numbers in Caribbean countries. MSFC is a unique location where mature public health and meteorological expertise co-exists, positioning NASA to develop innovative capabilities that can aid public health officials in fighting disease outbreaks. Weather forecasts will drive the model. Prior weekly DV and ChikV case data will be used to re-parameterize the model so that the most up-to-date and relevant information informs the forecasts. Predictions will be evaluated against actual reported DF and ChikV case data. This project will produce a prototype for an innovative disease forecast system for use by public health agencies and officials.

Anticipated Benefits

Develop an innovative approach to incorporate NASA weather forecast data into disease transmission models. Produce a prototype for eventual use by public health agencies and officials.

Primary U.S. Work Locations and Key Partners



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Organizations Performing Work	Role	Type	Location
★ Marshall Space Flight Center (MSFC)	Lead Organization	NASA Center	Huntsville, Alabama
Centers for Disease Control and Prevention (CDC)	Supporting Organization	US Government	

Primary U.S. Work Locations	
Alabama	Puerto Rico
Virgin Islands	

Project Website:

<https://www.nasa.gov/directorates/spacetech/home/index.html>

Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Center / Facility:

Marshall Space Flight Center (MSFC)

Responsible Program:

Center Innovation Fund: MSFC CIF

Project Management

Program Director:

Michael R Lapointe

Program Manager:

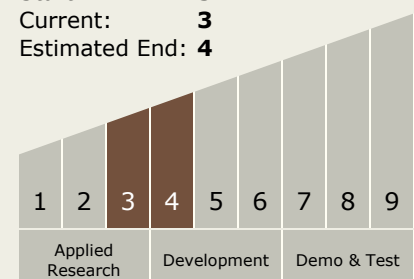
John W Dankanich

Principal Investigator:

Dale A Quattrochi

Technology Maturity (TRL)

Start: **3**
Current: **3**
Estimated End: **4**



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Technology Areas

Primary:

- TX06 Human Health, Life Support, and Habitation Systems
 - └ TX06.5 Radiation
 - └ TX06.5.4 Space Weather Prediction